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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/807,761	03/24/2004	Jeffrey P. Armstrong	031383-9083-01	4276

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EXAMINER

DRODGE, JOSEPH W

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

02/25/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/807,761

Applicant(s)

ARMSTRONG ET AL.

Examiner

Joseph W. Drodge

Art Unit

1797

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-12 and 35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1,2, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ross et al patent 3,748,830 in view of Alger et al patent 6,893,487 and Riggan patent 3,397,682. Ross et al disclose a fuel purifying system for gaseous fuel

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downstream of an engine that comprises source of gaseous fuel containing undesirables (engine), inlet (exhaust pipe 28), outlet (see "purged gas"), muffler/inlet cleaner 29, compressor 10 or 62 and purifier 20/26 operable to chill the flow of fuel to a temperature below the freezing point of water so as to condense out fuel and result in removal of portions of undesirable compounds (some of which is downstream of the purifier). For claim 35, also see heat exchanger for flow of chilled fuel (column 7, lines 20-23) and compressor inherently operable to increase fuel pressure. For claim 2, see filter 39 and liquid separator 54 (or column 9, lines 13-17). For claim 4, "condensed liquids" at column 7, lines 54 of Ross inherently refers to oily sludges.

The claims firstly differ in requiring recycling of fuel to the engine. Riggan teaches such recirculation (column 1, lines 8-27, etc.). It would have been obvious to one of ordinary skill in the art to have utilized the recycling feature of Riggan for the system of Ross et al, for energy conservation and reducing amount of released gases for environmental concerns.

The claims also differ in requiring that the system be mounted on a skid. Alger et al teach a gaseous fuel purifying system mounted on a platform or frame, i.e. "skid" (column 4, lines 45-68, etc.). It would have been further obvious to one of ordinary skill to have mounted the system on a platform or skid, as in Alger, to enhance manufacture and installation of the system with internal combustion engine-containing vehicles.

Claims 5-7 and 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ross et al patent 3,748,830 in view of Alger et al patent 6,893,487 and Riggan

patent 3,397,682 as applied to claims 1 and 2 above, and further in view of Koethe patent 6,360,730.

Claims 5-12 further differ in recited details of the compressor or of the purifier/chiller.

For claim 5, Koethe discloses a temperature-controlled valve to selectively divert fuel to a cooler (discussion of temperature chiller 180 and control unit 182 and associated controlled circulation infers a valve, see column 8, lines 25-36 and column 9, lines 32-40) to enable the compressor to maintain a stable temperature; for claims 6-10, multi-stage chiller including at least two stages, drains, heat-exchangers (column 8, line 37-column 9, line 28 regarding stages 184 and 186 & heat exchangers 85 and 87 of column 13, lines 8-28; the filter dryer 214/column 9, lines 1-3 and "super-water separator of column 9, lines 37-38 inherently associated with drains), recycling of heat between stages and refrigerant heat exchangers (see cited text bridging columns 8-9) so as to enable more efficient and complete removal of all of the moisture; for claim 11, a bypass/recirculating loop (column 9, lines 18-22, and for claim 12, the various forementioned filters and other separators operable to purge various contaminants from the fuel being purified, again providing reliable compressor operation.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ross et al patent 3,748,830 in view of Alger et al patent 6,893,487 and Riggan patent 3,397,682 as applied to claims 1 and 2 above, and further in view of Provost patent 5,722,229.

Claim 3 further differs in requiring the compressor to have a variable-speed drive. However, Provost teaches such drive with a compressor (columns 2-3). It would have been also obvious to one of ordinary skill in the art to have utilized such variable speed drive in the Ross system, in order to maintain highly accurate control of heat exchange temperatures.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ross et al patent 3,748,830 in view of Alger et al patent 6,893,487, Riggan patent 3,397,682 and Koethe patent 6,360,730, as applied to claims 1,2,6 and 7 above, and further in view of Provost patent 5,722,229. Claim 8 additionally requires an activated carbon filter in treating fuel oil, although Koethe discloses an adsorption unit at column 8, line 11; Seagle teaches such at column 3, lines 45-50 and Table of column 7. It would have been additionally obvious to the skilled artisan to have incorporated such activated carbon unit as an adsorbing means of the Ross system, in order to maintain a highly sterilized fuel oil supplied, since fuel oil is susceptible to bacterial contamination.

Applicant's arguments with respect to claims 1-12 and 35 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Drodge at telephone number 571-272-1140. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Roy Sample, can be reached at 571-272-1376. The fax phone number for the examining group where this application is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR, and through Private PAIR only for unpublished applications. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have any questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JWD
February 17, 2008

/Joseph W. Drodge/
Primary Examiner, Art Unit 1797